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WITH COMPLIMENTS OF THE AUTHOR.

The Indications for Ventral Fixation of the Uterus.

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THE INDICATIONS FOR VENTRAL FIXATION OF THE UTERUS.[1]

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Recent literature, or, more correctly speaking, events reported in the recent literature, have greatly modified the indications for the several retroversion operations. The discussion of the relative merits of these operations must now be carried to a higher plane than that of mere technique and of immediate and remote anatomical results. Their greater or less interference with the functions proper of the uterus, child-bearing and childbirth, constitutes the higher standard by which they must be judged.

Let us first, then, review the evidence now in as regards pregnancies following vaginæ-fixura uteri, ventri-fixura uteri and shortening of the round ligaments, the three operations under discussion this evening.

1. *Pregnancy following vaginal fixation of the uterus.*—Strassmann[2] has recorded the following disturbances of pregnancy: (*a*) Disorders and pain in the vaginal cicatrix (Dührssen, 6 cases). (*b*) Abortions; 25 per cent. at least in Dührssen's cases; over 27 per cent. in his own. (*c*) Vesical pain and disturbances of micturition. The literature of the past few months records the following serious complications and disasters of parturition: 1. (Strassmann.[3]) Transverse presentation; prolapse of funis; very difficult version due to abnormal conditions established by vaginal fixation; severe post-partum hemorrhage; rupture at site of cicatrix. 2. (Strassmann.[4]) Delivery per vaginam impossible; cervix above promontory of sacrum and pointing upward; Porro operation; rupture of vagina; death from intraperitoneal hemorrhage 1½ hours after operation. 3. (Graefe.[5]) Transverse presentation; cervix above pelvic brim and directed upward; version impossible; cæsarian section. 4. (Wertheim.[6]) Version rendered necessary, as well as exceedingly difficult and dangerous, by same conditions as in Strassmann's and Graefe's cases. 5. Rühl[7] reports 235 vaginal fixations performed by him-

[1] Read before the Section on Obstetrics and Gynecology, New York Academy of Medicine, February 27, 1896.

[2] *Ges. f. Geb. u. Gyn. zu Berlin*, Oct. 25, 1895.

[3] *Ibid.*

[4] *Ibid.*

[5] *Monatsschrift f. Geb. u. Gyn.*, Vol. II, No. 6.

[6] *Centralbl. f. Gyn.*, 1896, No. 2.

[7] *Centralbl. f. Gyn.*, 1896, No. 5.

self, with 12 subsequent pregnancies. In three of these the vaginal fixation necessitated version, which was performed successfully for mother and child. The remaining two required bloody incision of the vaginal cicatrix, and one of them craniotomy in addition, before delivery could be effected, the second child also being lost.

The three things common to all of the above cases were: the abnormal position of the cervix above the pelvic brim and pointing upward, the undue expansion and dangerous thinning of the posterior uterine wall, and the firm fixation of the immensely hypertrophied anterior wall in the pelvis, the latter condition constituting the obstacle to delivery. These conditions are all, beyond question, chargeable to the vaginal fixation; I have purposely refrained from citing other disturbances of pregnancy attributed to vaginal fixation, the interpretation of which might be open to doubt. In the discussion following the reading of Strassmann's paper other cases of serious disturbances of pregnancy and parturition were brought to light, and anxiety was expressed for the ultimate fate of the already numerous victims of the yet young operation. Bockelmann estimated that there were in Berlin alone about one thousand women with the dire possibilities of vaginæ-fixura gestation and delivery ahead of them. In New York there are perhaps two hundred such unfortunates. Who will dare to add to their number? With the evidence now in, I would neither perform, nor sanction in consultation, vaginal fixation *in a woman liable to future pregnancies*, with one possible exception only, to be mentioned later. Dr. Vineberg, in a paper on "Conservative Surgery upon the Uterus and Adnexa by the Vaginal Route," read a few evenings ago, cited 42 cases in point, in 34 of which he performed vaginal fixation in retreating from his conservative attack upon the uterus, tubes, and ovaries. In view of recent developments regarding vaginæ-fixura pregnancies shall we hope, or shall we not, that the conserved organs will functionate in these 34 cases? A literature on the pathology and treatment of vaginal-fixation pregnancies has already sprung up (Strassmann, Wertheim, Rühl).

Mackenrodt, the originator, or, perhaps more correctly, one of the originators and chief champions, of vaginal fixation, has formally disowned the operation, for the reasons just recorded. Unfortunately he has already adopted another unpromising child, *vesico-fixura uteri*. The only novelty about the latter operation is that Mackenrodt, and Straude before him, performed it per vaginam, while Werth in 1894, Pryor,[1] and more recently Westphalen, and perhaps others, have operated from above.

2. *Pregnancy following ventral fixation of the uterus.*—Milaender[2] has collected 54 confinements at term after ventral fixation, with 11 difficult labors—4 forceps, 2 cæsarian sections, 2 podalic versions, 2 transverse presentations, 1 foot presentation. Of the whole number of pregnancies after ventral fixation, 74,

[1] New York Obst. Soc., April 18, 1893.
[2] *Zeitschrift f. Geb. u. Gyn.*, Vol. XXXIII, No. 3.

collected by Milaender, 6 terminated in abortion, 3 by premature delivery, 10 were still pregnant at time of report, and 1 died. The death, however (one of my own cases), which was due to long standing valvular heart disease, occurred suddenly on the eve of confinement, and had absolutely nothing to do with the ventral fixation. Strassmann[1] reports two further cases of difficult labor after ventral fixation. Norris[2] reports a case in which the thickened uterine wall at the site of the ventral fixation proved an obstacle to delivery, rendering necessary cephalic version, with high Tarnier forceps, and resulting in the death of the child. Noble[3] asks for a collective investigation, stating that he has had some recent unfortunate experience concerning the influence of ventral fixation upon parturition.[4] My personal experience is negative as regards disturbances and difficulties of pregnancy and parturition following, *and the result of*, ventral fixation of the uterus. I have performed the operation 73 times. In 34 of these cases both ovaries and tubes were removed, 6 were unmarried, 7 over 40 years of age, leaving 26 patients more or less liable to pregnancy. Eight of these 26 have become pregnant with the following results: One produced a miscarriage upon herself at the second month; one died of heart disease on the eve of confinement.[5] A third case died near term, septic from retention of a dead fetus aged 7 or 8 months. Drs. Hanks and Coe, under whose care the patient was delivered, inform me that her condition and death bore absolutely no relation to the previous ventral fixation. Five of the 8 cases, finally, were safely and easily delivered of living children at term, one of them by forceps. All were head presentations. The abortion and the two deaths in my cases are not attributable in any way to the preceding ventral fixation. Certain anomalies, however, have been common to all of my own cases and to many reported by others, ofpregnancy following ventral fixation. I refer to the thickeningof the uterine wall at the site of fixation, and the ballooning or compensatory dilatation of the posterior uterine wall. In a general way it may be said that, in pregnancy following ventral fixation, that part of the uterine wall anterior to and below the point of fixation thickens, while that part posterior to and above that point dilates, with the growth of the product of conception. The liability to abortion and disturbances of pregnancy and parturition after ventral fixation depends, theoretically at least, a great deal upon the particular technique adopted. The recent modification of the operation adopted by Kelly, who stitches the posterior

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[1] *Loc. cit.*

[2] *Am. Gyn. and Obst. Jour.*, Feb., 1896, p. 149.

[3] *Ibid*, p. 213.

[4] In the discussion following the reading of this paper, Dr. Noble stated that in a case of pregnancy after ventral fixation he was obliged to do a Porro during labor at term, being unable to deliver *per vias naturales*. The woman died from sepsis antedating the Porro operation.

[5] Case alluded to above and reported in Trans. New York Obst. Soc, Nov. 21, 1893, and April 17, 1894.

uterine to the anterior abdominal wall, seems particularly illogical and unfortunate in this respect.

3. *Pregnancy after shortening of the round ligaments.*—A slight drawing pain beginning with the eighth month of pregnancy, and attributed, whether correctly or not, to traction upon the shortened ligaments, has been noted in a few cases. Beyond this, disturbances of pregnancy or parturition, *due in any way to the operation*, have not been observed in the numerous instances of conception following shortening of the round ligaments.

Applying to each of the three operations the crucial test of interference with the normal course of subsequent pregnancies, then, in accordance with the evidence above submitted, vaginal fixation must be discarded altogether in women liable to future pregnancies, ventral fixation must be viewed with strong distrust, while the results of shortening of the round ligaments will alone bear close scrutiny. I have dwelt thus long upon this, which to my mind is *the* important aspect of the question, as it leads logically and unavoidably to two principles or propositions which cover a great part of the subject before us for discussion this evening.

1. Vaginal fixation of the uterus should never be performed *upon a woman liable to future pregnancies*, under any conditions, when ventral fixation or shortening of the round ligaments will meet the indications just as well or better. Personally, I have been guilty of only one vaginal fixation. This was performed upon a young girl suffering from adherent retroversion of the uterus, with normal tubes and ovaries. Ventral fixation was attempted, after separating the adhesions, and failed, as the fundus could not be brought up to the anterior abdominal wall, on account of firm fixation of the cervix by parametritis posterior. I closed the median incision and immediately shortened the round ligaments, hoping that measure would suffice to keep the fundus forward. A pneumococcus infection of both inguinal wounds caused both ligaments to slough and the uterus again fell backward. A few months later I performed vaginal fixation, with the result of relieving my patient of her symptoms, and of keeping the uterus, if not in ideal anteversion, at least in front of the promontory of the sacrum.

2. Neither vaginal fixation nor ventral fixation should be performed *upon a woman liable to future pregnancies*, for the cure of an uncomplicated retroversion of the uterus. This rule is subject to one exception only: In performing the operation of shortening the round ligaments one of the ligaments may tear close to or out of the uterus. Under these conditions the abdomen should immediately be opened in the median line and the uterus sewn to the abdominal wall, ventral fixation being the lesser of the two evils when compared with leaving the uterus held forward by but one round ligament. I have three times performed ventral fixation under this indication. The same indication for ventral fixation holds good if the shortened round ligaments should slough after operation, and the uterus as a result again falls backward.

The above rules are based upon the assumption that shorten-

ing of the round ligaments is in every respect the most physiological operation for cases of uncomplicated retroversion, with no adhesions of uterus, tubes, and ovaries. I am quite free to admit that an anatomical cure of retroversion can be obtained by each of the three operations—vaginal fixation, ventral fixation, and shortening of the round ligaments—in from 90 to 100 per cent. of cases, by a proper technique and a capable operator. Mackenrodt figures 10 per cent. of failures for vaginal fixation. Kellogg, who has probably had the largest individual experience in shortening the round ligaments, writes me: "I have done the operation a few more than five hundred times, and have had failures or partial failures in less than 5 per cent. of the cases." My own experience, embracing over one hundred cases, tallies with this. In ventral fixation there is no reason why the average operator should not obtain from 95 per cent. upward of anatomical cures. The quality of the cure, however, is an entirely different matter, especially to the patient. After a successful shortening of the round ligaments the physiological mobility of the uterus remains unimpaired. In pregnancy the shortened round ligaments undergo evolution and involution with the uterus. The more successful, however, a ventral or a vaginal fixation, the greater the abnormalities established within the patient's abdomen or pelvis. It is repugnant to every surgical instinct to create unnecessary adhesions within the peritoneal cavity.

An indication for ventral fixation that may be allowed by some, is inability of the operator to perform the operation of shortening the round ligaments. Others again will not admit this, and contend that in that case the surgeon should either learn how to do the operation or send his patient to some one who can. Personally, in view of the evidence now in in favor of the operation, I consider it the duty of every one claiming to be a specialist in gynecology to make himself master of some method of shortening the round ligaments outside of the abdomen. Though Adams, one of the originators of the operation, said: "The operation is one that all and sundry cannot perform," I think that, with a knowledge of anatomy and a little practice upon the cadaver, any surgeon capable of doing a Bassini operation for the radical cure of hernia should be able to shorten the round ligaments successfully. Others have encountered the same difficulties and have mastered them in one way or another. Kellogg, after having performed 28 operations after Alexander's method, writes: "I am sure that had I not adopted a new method of performing the operation I should have felt it my duty to cease its performance." Kuester had abandoned the operation twice, when, stimulated by the examination of a successful case of Werth, he tried a third time and has become one of its most enthusiastic advocates. Mundé records his discouraging first experience, but with the courage of his convictions he persevered and mastered the operation. The writer himself gave up the operation after five more or less, generally less, successful cases, and only resumed it six

months later, after he had elaborated in the dead-house the technique of his method of shortening the round ligaments.

Another, and to the writer's mind a very important, indication for ventral fixation of the uterus is as an adjuvant in the performance of combined operations for the cure of prolapsus uteri et vaginæ. It is in just these cases that I have derived the most unalloyed satisfaction from the operation, the necessary plastic work upon uterus, vagina, and perineum being supplemented by ventral fixation performed at the same sitting. I have performed ventral fixation upon this indication 16 times. Two of the patients became pregnant, and were safely delivered at term. Both remained cured of their former complete procidentia of the uterus and vagina when last seen, one four months and the other a year after confinement.

Another broad indication for ventral fixation of the uterus is as a closing procedure after operations upon the adnexa of such a character that the possibility of future pregnancy is excluded, as, for instance, when both ovaries and tubes are removed, the uterus being left. This indication will but rarely obtain with those who advocate and practice removal of the uterus whenever both tubes and ovaries must go. Those of us, however, who are not quite so radical, but who sometimes leave a uterus under these conditions, should make it a practice to attach the fundus to the abdominal wall in closing the incision of the latter. Without added risk we thereby insure permanent anteposition of the uterus.

Nearly in line with this indication is the performance of ventral fixation after operations in which tubes and ovaries, or at least one tube and ovary, are left, the uterus being unusually heavy. There is an unwillingness in some quarters to trust to shortening of the round ligaments to hold a heavy uterus forward. Personally, I am convinced that any uterus which is so heavy from chronic metritis that the shortened round ligaments cannot sustain it, had better be removed; and conversely, experience has taught me that uteri of even twice the normal weight are readily and permanently held forward by properly and *sufficiently* shortening the round ligaments.

We come now to a doubtful field, that of the operative treatment of adherent retroverted uteri, with appendages in good or fair condition. This territory has until within the past few years been conceded to ventral fixation. In the course of time, however, various operators, the writer among the number, have learned how to deal successfully with this class of cases by applying to them shortening of the round ligaments. An incision is first made into the peritoneal cavity either through the posterior vaginal fornix or through the anterior abdominal wall, and all adhesions of the uterus, tubes and ovaries are broken up. The incision through which this work has been done is then closed and the round ligaments shortened in the usual way. The writer has practiced this procedure a number of times by both the vaginal and suprapubic route, but for reasons of technique, which this is not the proper occasion to enter upon, he prefers the suprapubic approach.

In this connection it might be mentioned that Kellogg, for reasons and with exceptions for which I must refer to his paper,[1] says: "From my present standpoint I would not think of performing the operation of ventral fixation without also shortening the ligaments, etc." I myself have never met, nor can I conceive, the case to which I would consider a combination of the two operations applicable.

Ventral fixation has been considered, even by some who ordinarily prefer Alexander's operation, as indicated in sharp retroflexion of the uterus. This indication, however, I cannot allow, since I have succeeded in curing the most aggravated cases of movable retroflexion by shortening the round ligaments.

There remains one indication for ventral fixation, which, as far as my knowledge goes, has as yet neither been mentioned nor acted upon. I refer to cases of uterus unicornis causing symptoms which, under certain conditions, cannot be relieved short of operation. The writer has at present under observation a young woman, married over a year, in whom coitus has never been consummated owing to intense dyspareunia. On examination she presents a uterus unicornis lying transversely across the pelvis, the developed right half of the body lying upon the right linea innominata and the cervix pointing to the left in the vagina. The diagnosis of uterus unicornis with rudimentary left horn was made by tracing the left tube to the junction of corpus and cervix. The tender left ovary lies immediately on top of the titled cervix. The slightest pressure upward upon the latter causes the same intolerable pain which is experienced upon the entrance of the male organ. Ventral fixation of the uterus, with perhaps removal of the left ovary, will probably cure. Shortening of the round ligaments is not applicable to uteri unicornes, the round ligament of the undeveloped side, with the tube, arising from the uterus at the level of the os internum.

In conclusion the writer begs to submit the following propositions:

1. Vaginal fixation of the uterus does not come within the sphere of legitimate operations in women liable to future pregnancy.

2. The indications for ventral fixation of the uterus should be limited to the utmost degree in women liable to subsequent pregnancy.

3. Ventral fixation is never indicated in uncomplicated retroversion of the uterus.

4. Inability of an operator to perform shortening of the round ligaments *may* be an indication for ventral fixation, but not in the case of one claiming to be a specialist in gynecology.

5. Ventral fixation is indicated, *as an adjuvant*, in the performance of combined operations for prolapsus uteri et vaginæ.

6. Ventral fixation is indicated as a closing step in all cœliotomies in which the adnexa are removed and the uterus is left.

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[1] *Modern Medicine and Bacteriological Review*, 1894.

7. Ventral fixation *may* be indicated, *under exceptional conditions*, in cases of adherent retroversion, with tubes and ovaries in good condition.

8. Ventral fixation *may* be indicated in the most aggravated cases of uncomplicated sharp retroflexion. The writer has not met such a case not amenable to successful treatment by shortening the round ligaments.

9. Ventral fixation is indicated, under certain conditions, in cases of uterus unicornis.

The operation of ventral fixation of the uterus is also known as hysterorrhaphy, hysteropexy, ventro-fixatio uteri, ventri-fixatio uteri, ventri-fixura uteri, and suspensio uteri; altogether too many designations for one operation. Hysterorrhaphy means suture of the uterus itself, and not attachment of the uterus by suture to another tissue or organ. It is of parallel significance with trachelorrhaphy, and no more. Hysteropexy signifies attachment or fastening of the uterus, but does not specify to what it is attached. It may mean vaginal, vesical, ventral or any other fixation of the uterus. Ventro-fixatio uteri is ungrammatical; *venter* is a noun of the third declension. A Latin word *fixatio* does not exist; therefore neither ventro-fixatio nor ventri-fixatio is allowable. Ventri-fixura is the only correct Latin designation; *fixura*, an obsolete noun (from *figere*, *fixum*), being preferable to *fixatio*, a coined noun.

The name suspensio uteri has been recently applied by Kelly, who first proposed the term hysterorrhaphy to a slightly modified ventral fixation. Neither the modification of technique, however, nor the change of name commends itself to the writer. Suspensio uteri, hanging the uterus, might better apply to shortening of the round ligaments, after which operation the uterus is really *suspended* in normal anteversion. A Fellow recently related to the New York Obstetrical Society a case in which, misled by the term suspensio uteri, he had suspended the uterus free in the abdominal cavity by sutures passed through fundus and anterior abdominal wall, not, however, bringing the two together. Sutures an inch or more in length run free through the peritoneal cavity of that patient between fundus uteri and anterior abdominal wall. Truly, a little knowledge is a dangerous thing. The operator was quite surprised when informed that this was not Kelly's suspensio uteri, as a case of which he had reported it, but that he had unconsciously performed an original operation not likely to have either claimants for priority or imitators.

Ventri-fixura uteri should be the Latin, and ventral fixation of the uterus or ventral hysteropexy the English, designation of the operation in question.

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